Impact of ethnicity, migration and mental health on type 2 diabetes incidence

30-second summary:

Migration, mental health conditions and ethnicity independently increase the risk of incident type 2 diabetes, according to this longitudinal cohort study of around 340 000 people from multiethnic healthcare communities in London, published in *Diabetologia*. Over an observation period of 4.7 years, there was a 2–3-times higher incidence of type 2 diabetes in people of South Asian, Black Caribbean and Black African ethnicity compared with White British, while migrant status increased the incidence by 29% across all ethnic groups, including those with self-reported White British ethnicity. Anxiety and depression slightly increased incidence, but severe mental illness was associated with almost double the risk of type 2 diabetes compared to those without mental health conditions. The average time to develop diabetes was 3.2 years. This study highlights the importance of recording migrant status as well as self-reported ethnicity and ensuring that people with mental health problems are appropriately coded on our electronic health records. Further research is needed to better understand and tackle the reasons underlying these inequalities.

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Nine percent of UK adults aged 20–79 years have type 2 diabetes, with potential impact on quality of life and need for medication. Ethnic differences in incidence of new type 2 diabetes are well known, but little is known about how mental illness or migration status affect this and whether they interact with ethnicity.

Previous studies have shown mixed outcomes, some proposing a "healthy migrant" phenomenon, in which migrants have better health than the populations they join, while others have identified increased risk of type 2 diabetes and cardiovascular disease in migrants compared with the local population. Possible explanations for poorer health in migrant populations include socioeconomic factors, eating patterns and physical activity, language and cultural barriers, and other psychological stresses of living in a foreign country, as they have often left family and friends in their country of origin.

Likewise, mental health conditions, particularly severe mental illness (SMI) and some of the drug treatments prescribed can increase risk of type 2 diabetes and other chronic illnesses, but it is unclear how this is affected by also being a migrant to the UK.

The present study

This longitudinal, pre-COVID-19 (2012–2019) cohort study involved 339 515 adults, without type 2 diabetes at baseline, in multi-ethnic South London primary care centres. Shamsutdinova and colleagues explored the combined and independent impact of migration status, mental health and ethnicity on type 2 diabetes incidence.

Ethnicity was coded using 19 UK Census options; migration status was based on UK or non-UK country of birth. Postcodes were used to evaluate deprivation, while physical and mental health problems were based on recorded diagnoses. Mental health was divided into anxiety and depression, and severe mental illness (psychosis, schizophrenia, bipolar disorder).

Medical records were used to identify incidence of type 2 diabetes using coding diagnoses and laboratory results.

Findings

Mean age at study entry was 36.6 years, 52% were women and mean BMI was 25.1 kg/m^2.

- Population ethnicity: 40% White British, 33% White other, 12% Black African, 11% Black Caribbean and 4% South Asian.
- Migrant status: 9% of White British, 91% of White other, 48% of Black Caribbean,

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Useful resources

- **Diabetes UK:** Tackling Inequality Commission report and executive summary
- **Diabetes UK:** Diabetes information in different languages and formats
- **Diabetes UK:** Flavour toolbox for South Asian cooking
- **Carbs & Cals:** *World Foods* book
- **Healthier You NHS Diabetes Prevention Programme:** Healthier Eating: African, Caribbean and South Asian cuisines
- **Know diabetes:** Website and how to access resources in different languages

85% of Black African and 69% of South Asian individuals were born outside the UK. Around 50% of the study population were migrants.

Over an observation period of 4.7 years, associations with type 2 diabetes incidence were calculated using three models. Model 1 adjusted for age and sex, Model 2 also adjusted for migration status, and Model 3 was adjusted for these potential confounders as well as deprivation, BMI, macrovascular conditions, depression, anxiety and SMI. Hazard ratios for incident type 2 diabetes were very similar for Models 2 and 3.

Associations with ethnicity

Those of South Asian, Black Caribbean and Black African ethnicities had a 2–3-times higher incidence of type 2 diabetes compared with those of White British ethnicity, with hazard ratios (HRs) as follows:

- Black African: HR 2.2
- Black Caribbean: HR 2.13
- South Asian: HR 3.5

There was no significant difference between White British and White other groups in adjusted analyses.

Associations with migrant status

Being a migrant to the UK increased the risk of developing type 2 diabetes compared with being born in the UK:

- White British: HR 1.29
- White other: HR 1.24
- Black African: HR 2.83
- Black Caribbean: HR 2.74
- South Asian: HR 4.51

When migrant versus non-migrant people were compared within each ethnic group, type 2 diabetes risk was increased by 29% in each ethnic group, including in those self-reporting White British ethnicity. This suggests we need to identify those with migrant status and that post-migration support is needed across all groups.

Associations with mental illness

- Depression or anxiety increased risk of type 2 diabetes moderately: HR 1.15
- SMI was associated with an almost doubling of diabetes risk: HR 1.84

The increased incidence was similar across each ethnic group. Contributing factors could include a direct impact of medications and, indirectly, of weight gain, poor motivation, difficulty accessing preventative care leading to delayed diagnosis and management, and difficulties distinguishing early metabolic symptoms from mental health-related symptoms.

Conclusions

These findings do not support the "healthy migrant" hypothesis. Ethnicity, migrant status and mental illness independently increased the risk of type 2 diabetes in this study, with no evidence of a statistically significant interaction between them.

Increased risks for ethnic groups persisted after adjustment for migration status, socioeconomic status, and mental and physical health conditions, suggesting that there remain other unrecognised barriers influencing risk.

This implies that mental health conditions and migrant status influence type 2 diabetes risk independently of ethnicity and that, along with ethnicity, these factors represent additional, distinct disadvantages.

We therefore need to collect data on migrant status to ensure we are aware of this when delivering care – particularly preventative care – whilst continuing to support people facing challenges due to ethnicity alone.

Possible contributors include language barriers (44% of migrants had a primary language other than English), acculturation stress, reduced healthcare access, dietary and lifestyle changes and additional contributors which are still unknown. Migrant populations are heterogeneous, however, coming from different parts of the world, being forced or choosing to migrate for different reasons, and with differing pre-migration health and healthcare.

Study strengths and limitations

This was a large study with a population representative of urban areas of the UK, followed up until immediately prior to the pandemic to avoid interference from this on diagnoses, coding and care. It explored three diverse risk factors in ethnicity, mental illness and migrant status.

Limitations included lack of data on the reasons for migration, or on pre-migration health status

or risk factors. Additionally, some ethnic groups were merged due to low numbers; some mental health conditions – such as post-traumatic stress disorder, eating disorders and stress – were not included; and, as the study was observational, only associations, rather than causality, can be identified.

Implications for practice

Although our electronic medical record summaries include mental health diagnoses and those of us with multi-ethnic practices are getting better at asking about and coding self-reported ethnicity, most of us do not record country of birth or migrant status consistently. Since all three of these factors have been shown in this study to influence risk of developing type 2 diabetes, it is clearly time to develop sensitive questioning to identify country of birth and migrant status in a way that is free of bias or stigma.

The average time to develop diabetes was 3.2 years, and half of the study cohort had been registered with their London practice for two years or more, suggesting that their increased risk of type 2 diabetes had persisted after migration. Two-thirds of those who developed new diabetes in this study had experienced migration, and this finding is similar to other studies looking at populations in North America and other European countries.

We in primary care will have an important role in helping identify barriers and challenges experienced by those who have moved to the UK and joined our practice from other countries, and to make a shared plan for how we can help them overcome these barriers to optimising their health and reducing risk of type 2 diabetes. Even for busy clinicians, any time spent doing this is likely to be rewarding for both clinicians and the people we support, irrespective of whether they have already developed type 2 diabetes, since the same barriers will likely persist and affect ability to self-care with type 2 diabetes.

If we want to reduce these inequalities in diabetes (and likely other chronic diseases, too), we will need to better understand the influences, barriers and difficulties faced, and discuss with patients and colleagues how to address them. It is a big ask to tackle all three risk groups, who appear to have different pathways to increased risk, but it is a great opportunity to help make a difference in our practices and communities. ■

Shamsutdinova D, Stahl D, Das-Munshi J (2026) Inequalities in type 2 diabetes incidence in a multiethnic population: A cohort study investigating the impact of ethnicity, migration and mental health comorbidities. *Diabetologia* **69**: 2240–52

Practice points

1. Being a migrant to the UK increases the risk of type 2 diabetes, independently of ethnicity, mental health conditions and other known risk factors.
2. Asking about and recording migration status in a sensitive and stigma-free way can help identify barriers and challenges experienced by those who have moved to the UK, in order to optimise their health and reduce their risk of type 2 diabetes.

Inequalities in type 2 diabetes incidence in a multiethnic population: A cohort study investigating the impact of ethnicity, migration and mental health comorbidities

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